

Lending a Voice to Learning

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Speech Pathologists See Results with SMART Products

By Kim Hamill

If there was a formula for creating effective and inclusive learning environments, the SMART Inclusion team at [Upper Canada District School Board](#) could very well be credited with its invention.

In fact, this team of educators, speech-language pathologists and technology specialists are helping 70 classrooms in their rural Ontario, Canada, school district adopt and sustain an inclusive and participatory model of learning called [SMART Inclusion](#).

The inspiration behind this grassroots initiative was a single question. What if the district could develop a way to create whole-class learning experiences for students with special needs, particularly those who are nonverbal?

"All kids are capable of meaningful social learning, and to be fully inclusive, you also have to have meaningful educational participation. So, from the start, we thought, 'What is a more meaningful way for all students to learn than in a group setting, focusing on rich curriculum?'" says Alexandra Dunn, one of the district's speech-language pathologists.

Dunn leads the SMART Inclusion project team, along with the district's chief psychologist, Alison Inglis. Their vision was to develop a project that would have both momentum and sustainability, which is why it was important they not only chose innovative teachers and inclusive educational practices, but the right technology products.

Fingers do the talking

The 12 students who were first selected to participate in the SMART Inclusion project had a diverse range of communication needs. For instance, the group included students with autism spectrum disorder and cerebral palsy, so the team knew creating whole-class learning experiences could prove challenging.

That's where the [SMART Board™ interactive whiteboard](#) came in.

"We've always had access to a lot of technology for these children, but in the 14 years that I've worked, the SMART Board is the one thing that's really making it possible for them to be able to actively participate in whole-group instruction," Dunn says.

Kimberleigh Doyle, a former special needs teacher who now works on education policy for SMART, says that every student learns differently, and that the SMART Board interactive whiteboard is able to facilitate large- and small-group instruction while enabling teachers to address student's individual learning styles.

"The SMART Board interactive whiteboard basically levels the playing field for all students. It gives students who struggle with communication or language difficulties the opportunity to participate in activities with their general education classmates. With the SMART Board interactive whiteboard, the teacher is able to differentiate the lesson to accommodate every student's needs," Doyle says.



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Speech-Language Pathologist
Upper Canada District School Board
Brockville, Canada



One of Dunn's goals with the project was to facilitate differentiated instruction. She's been able to do that by incorporating assistive hardware and software, like voice output devices, switches and inclusive learning software, to ensure that every student, regardless of communication ability, can access and participate in lessons on the interactive whiteboard.

Some students are not able to hold a pen, and the SMART Board interactive whiteboard enables students to overcome this barrier. Students can interact with the lesson using their finger, elbow, head or any object that they can get their fingers around.

And Doyle says that touch is one of the key reasons why students with special needs benefit from the use of SMART products.

"Students who have fine motor difficulties would have trouble holding, manipulating and using a pen on the interactive whiteboard, but I've seen students who have very severe muscle difficulties and fine motor issues who can get up and engage with the SMART Board because they can just use their hand. There's not another type of implement that is blocking them from having to manipulate something else in order to get something moving," Doyle says.

"Touch is very natural for all children. The first thing they want to do is touch. Students with special needs especially benefit from being able to actually touch and interact directly with their learning," Doyle says.

Touch capability is one of the reasons Deann O'Lenick, a speech-language pathologist in Dallas-Fort Worth, Texas, has seen success with the [SMART Table™ interactive learning center](#).

O'Lenick has used the SMART Table to help early education students gain skills in the areas of communication, articulation and comprehension. She says that the multitouch, multiuser capability of the SMART Table has been instrumental in the treatments and techniques used in speech pathology.

Doyle agrees, saying that, "the SMART Table gives students the ability to take turns, to ask questions, to talk to each other and to problem-solve together, so there's communication that is taking place naturally, just because of the situation that they are in. The SMART Table allows all the students to work together, and it encourages them to speak with one another, promoting their language skills in a very natural environment. They are completing an activity, taking turns, working together and communicating with each other."

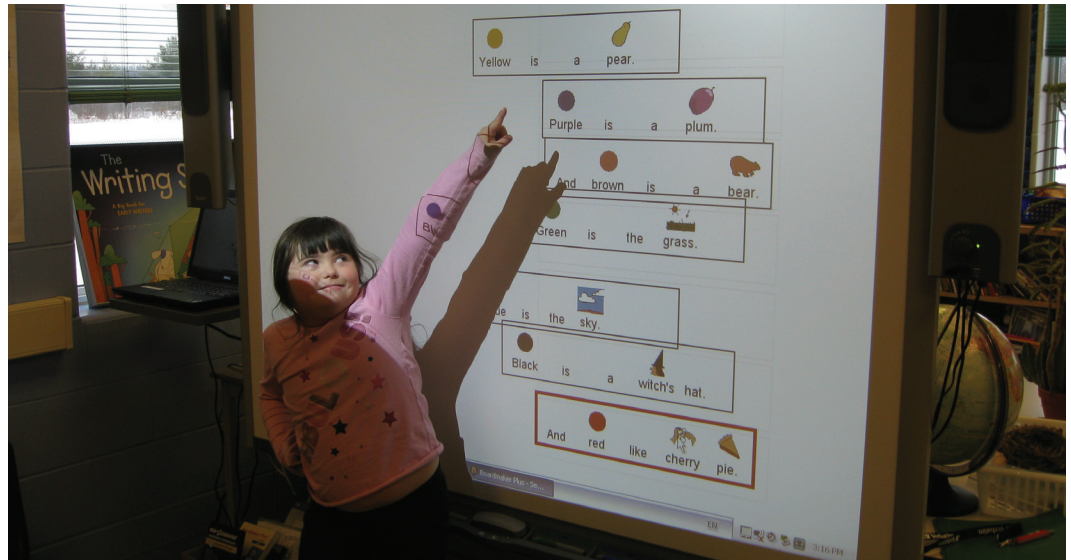
Because the SMART Table enables multiple students to access lessons at the same time, O'Lenick is able to promote collaborative learning and encourage students to use their language skills to share ideas, solve problems and express themselves.

When students interact with lessons on the SMART Table, they receive instant visual feedback letting them know if they are getting the correct answer, so they can make adjustments accordingly. O'Lenick has noticed that when working in this group setting, students will provide guidance and encouragement to each other to complete the activity successfully.

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Education Policy Manager
SMART Technologies



"The interest level, the desire to be able to work on their skills, the desire to be able to utilize the technology during their activities, makes a difference in the students' motivation. They are more motivated to work on their communication skills and then carry that through and talk to others about what they are doing," O'Lenick says.

Socializing from the word go

Both O'Lenick and Dunn have found that SMART products improve students' abilities to work in groups and build relationships with their peers.

For Dunn, the SMART Board interactive whiteboard gives her the ability to create whole-class learning experiences for a group of students who may not always have the opportunity to participate in learning with other students.

And O'Lenick's experience with the SMART Table is one of building social relationships through the small-group activities in her speech therapy sessions.

"The SMART Table gives them the opportunity to use their language with their peers, and also to see the consequences if they don't. It's common for one child to change the color while another is the middle of drawing something. So, this one child is drawing a tree and all of a sudden, his tree has gone from being green to being purple," O'Lenick says, referring to the Paint application on the SMART Table.

"So the immediate cause and effect, and the problem solving, the social resolution of that situation helps them to be able to use their verbal language," O'Lenick says.

A universal language for learning

Universal Design for Learning (UDL) is an important factor in deciding what technology products will help support an inclusive learning environment. This principle is about ensuring that schools offer multiple means of representation, expression and engagement, so that all students can be successful participants.

Or as Dunn puts it, "You wouldn't build a school today without including universal design principles, like ramps and elevators. Even if there isn't a student at the school today who uses a wheelchair, you should be putting these supports in place now to accommodate all current and future people accessing your facility. Similarly, UDL challenges us to minimize barriers to the curriculum so that all students can strive to meet high academic and social standards. Of all the interactive whiteboards on the market today, SMART Boards accommodate the widest range of learners."

And O'Lenick's experience with the SMART Table confirms the importance of choosing technology products that meet UDL principles. Whether her students are using the Paint application to create story sequences or matching activities for vocabulary lessons, the SMART Table supports O'Lenick's objectives to help students achieve their individual goals. "We can work with students with a variety of function levels with a single tool – the SMART Table," O'Lenick says.

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The results speak for themselves

Dunn is also seeing an increase in her students' abilities since she introduced the SMART Board interactive whiteboard to lessons.

"We've had so many successes. Each one of our 12 initial children did something that beforehand was just totally unexpected for them," Dunn says, noting that she's seen a clinically significant increase in engagement and academic achievement.

The project included standardized language assessments both at the outset and end of the 2008–2009 school year. The data revealed that all students demonstrated improvements in their speech and language skills. In fact, all students' communication skills had improved to a greater degree when compared to development in previous years. One student who was nonverbal was speaking in sentences after just 10 months of participating in SMART Inclusion.

Teachers participating in SMART Inclusion also reported they were doing more teaching and less behavior management. And at the same time, they felt students were meeting the goals defined in their individual education plans sooner than expected. During the 2009–10 school year, with support from Dunn, the London Catholic District School Board assembled a SMART Inclusion team and replicated the research findings from Upper Canada District School Board.

O'Lenick also sees both the potential and the results of using the SMART Table for special needs students, noting that part of the success is using innovative teaching practices to support student's individual education goals.

"There are endless ways to be able to use the SMART Table to change how we instruct, how we remediate, how we train the new skills that the student needs to acquire. The tool is not the goal, but the students' goals and objectives are the main things that we are working on. But the motivation that the student gets, and the variability of responses that will help to demonstrate that goal, those are enhanced by the SMART Table," O'Lenick says.

And when it comes to using SMART products with special education students, success is quite common, according to Doyle. "I've been using SMART products for 10 years and I definitely believe that they make a difference for students with special needs. I've seen it happen, I hear stories every day," Doyle says.

The SMART Inclusion project is now in its third year. What started as a pilot project with 12 students has grown to 70 classrooms and to other school districts across Ontario and Wisconsin. And that's something to talk about. **EC**

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